



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/650,727 | 08/29/2003 | Tsukimi Wakabayashi | L8734.03101 | 7664 |

7590 02/08/2007
STEVENS, DAVIS, MILLER & MOSHER, L.L.P.
1615 L Street, N.W., Suite 850
Washington, DC 20036

| |
|----------|
| EXAMINER |
|----------|

GE, YUZHEN

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2624

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 02/08/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/650,727

Applicant(s)

WAKABAYASHI ET AL.

Examiner

Yuzhen Ge

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

Claims 5-8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 5-8 define a computer program embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed a computer program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" to read "a computer readable medium storing a computer program" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 112

1. Claims 2 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 2, the phrase "either/both" renders the claim indefinite because it is unclear whether what is means. See MPEP § 2173.05(d). The examiner will interpret it as "either or both".

Claim Rejections - 35 USC § 102

2. Claims 1, 3-5 and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (US Patent 6,954,225).

Regarding claim 1, Chen teaches a motion detection apparatus for detecting a motion in an image frame inputted and stored in a time series, comprising:

frame division means for dividing the inputted X-th image frame $F(X)$ into a plurality of blocks $B(X)_{ij}$, where $i=1$ to m and $j=1$ to n (col. 5, line 50-col. 6, line 30, Figs. 5, 7-14, Figs. 7, 11-12 and 14);

block luminance acquisition means for acquiring representative luminance values $BL_{rep}(X)_{ij}$ of said blocks $B(X)_{ij}$ (col. 7, lines 34-55, Figs. 7, 11-12 and 14, the second image is the X-th image);

frame luminance acquisition means for acquiring a representative luminance value $FL_{rep}(X)$ of said inputted frame $F(X)$ (abstract, col. 2, lines 15-28, col. 3, lines 39-43, col. 3, lines 61-66, the average values of pixels of first and second images are equivalent to representative luminance value).

storing means for storing $BL(X)_{ij}$ and $FL_{rep}(X)$ (col. 1, lines 25-67, inherent from a monitoring system, Figs. 7 and 9-14);

block luminance difference calculation means for calculating block luminance differences $\Delta BL_{rep}(X)_{ij}$ between corresponding blocks in $F(X)$ and a frame prior to $F(X)$ (Figs. 7, 11-12 and 14, col. 7, line 56-col. 8, line 7, col. 10, lines 21-27);

Art Unit: 2624

frame luminance difference calculation means for calculating a frame luminance difference $\Delta FL_{rep}(X)$ between $F(X)$ and a frame prior to $F(X)$ (col. 2, lines 6-15, the first image is a frame prior to $F(X)$, col. 6, lines 22-32, col. 6, lines 59-65, col. 8, line 25-34, col. 10, lines 27-31);

absolute difference calculation means for calculating absolute values $|\Delta BL_{rep}(X)_{ij} - \Delta FL_{rep}(X)|$ (col. 7, lines 1-3, col. 8, lines 35-36, col. 10, lines 35-38);

determination means for determining that a certain block includes a motion, if said absolute value for said certain block is greater than a prescribed threshold (col. 7, lines 4-7, col. 10, lines 36-41); and

output means for outputting the determination result (col. 1, lines 25-67, inherent from a monitoring system, Figs. 7 and 9-14).

Regarding claim 3, Chen teaches the motion detection apparatus according to claim 1, wherein said representative luminance value is an average, mode or median of luminance values (col. 7, lines 34-55).

Regarding claim 4, Chen teaches the motion detection apparatus according to claim 1, wherein said frame prior to said present frame $F(X)$ is a frame $F(X-1)$ just prior to $F(X)$ or a frame $F(X-k)$ which is "k" frames prior to $F(X)$, where "k" is greater than or equal to two (col. 2, lines 5-15).

Art Unit: 2624

Claims 5 and 7-8 are the corresponding medium claim of claims 1 and 3-4. Chen teaches a computer implemented monitoring system (Figs. 1-2, col. 1, lines 25-67) and therefore Chen teaches implicitly a computer program. Thus Chen teaches claims 5 and 7-8 as evidently explained in the above-cited passages.

Other Relevant Art

Ng. (US Patent 5,731,832) also teaches an apparatus and computer program for detecting motion in a video signal.

Allowable Subject Matter

3. Claims 2 and 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph and 101 (for claim 6), set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter. The prior art fails to teach the listed claims each of which specifically comprises the following listed feature(s) in combination with other limitations in the respective claims-

-- said certain block includes a motion, if said absolute value for said certain block is greater than a second threshold and moreover if either or both of said representative block luminance values of the corresponding certain blocks in F (X) and a frame prior to F (X) is/are greater than a first threshold, where said first threshold is greater than said second threshold; or said certain block includes a motion, if said absolute value for said certain block is greater than a third threshold and moreover if both of said representative luminance values of the corresponding certain blocks in F (X) and a frame prior to F (X) are smaller than or equal to a first threshold, where said second threshold is greater than said third threshold.

Art Unit: 2624

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge
Examiner
Art Unit 2624



WENPENG CHEN
PRIMARY EXAMINER

1/22/07